

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A data recording apparatus comprising:

Inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said Inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of detecting a data rate of the received bit stream of-by counting a number of input-packets which are-received by said Inputting means, at intervals of a time corresponding to an integer multiple of a minimum record-unit time over a predetermined time, the predetermined time being a time taken by said recording means to record data on said predetermined recording medium in a predetermined format; and

controlling means of controlling a recording rate of said recording means by using based on the detected data rate which is detected by said data rate detecting means.

2. (Original) A data recording apparatus according to claim 1, wherein said apparatus further comprises special-data producing means of, from the data which is received by said Inputting means, producing at least one or more kinds of special-reproduction data,

said recording means records also the special-reproduction data which is produced by said special-data producing means, and

said controlling means controls the recording rate in consideration of also an amount of the special-reproduction data which is produced by said special-data producing means.

3. (Currently Amended) A data recording apparatus comprising:

inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium;

data rate detecting means of detecting a data rate of the received bit stream of by counting a number of input packets which are received by said inputting means, at intervals of a time corresponding to an integer multiple of a minimum record unit time over a predetermined time, the predetermined time being a time taken by said recording means to record data on said predetermined recording medium in a predetermined format;

data rate information outputting means of outputting information of the detected data rate which is detected by said data rate detecting means; and

controlling means of controlling a recording rate of said recording means on the basis of instructions from a user.

4. (Currently Amended) A data recording apparatus according to claim 3, wherein said apparatus further comprises special-data producing means of, from the data which is received by said inputting means, producing at least one or more kinds of special-reproduction data,

said recording means records also the special-reproduction data which is produced by said special-data producing means, on said recording medium, and

said data_rate information outputting means outputs also information of an amount of the special-reproduction data which is produced by said special-data producing means.

5. (Original) A data recording apparatus according to claim 2 or 4, wherein there are plural kinds of special-reproduction data, and

said apparatus further comprises switching means of switching the kinds of special-reproduction data which are produced by said special-data producing means.

6. (Cancelled)

7. (Previously Presented) A data recording apparatus according to claim 5, wherein the bit stream is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream of a DSS system.

8. (Cancelled)

9. (Currently Amended) A data recording apparatus according to claims 1 or 2 wherein said controlling means compares a predetermined reference value with the data_rate which is detected by said data rate detecting means, to control the recording rate of said recording means.

10. (Original) A data recording apparatus according to claim 9, wherein the predetermined reference value is a value which is determined in accordance with a rate of a head data of the recording signal which is to be recorded by said recording means, in each recording time period.

11. (Original) A data recording apparatus according to claim 9, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

at intervals of a predetermined time period, when a rate of a data corresponding to the recording signal which is to be recorded by said recording means exceeds even once the predetermined reference value, said controlling means controls the recording rate of said recording means so that all recording signals

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during the predetermined time period are recorded in a recording mode in which a data of a rate exceeding the predetermined reference value can be recorded.

12. (Original) A data recording apparatus according to claim 9, wherein there are at least two kinds of recording modes in which said recording means records the recording signal, and

at intervals of a predetermined time period, until a rate of a data corresponding to the recording signal which is to be recorded by said recording means exceeds the predetermined reference value, said controlling means controls the recording rate of said recording means so that the recording signal is recorded in a recording mode corresponding to a rate which does not exceed the predetermined reference value, and, after the rate of the data corresponding to the recording signal which is to be recorded by said recording means exceeds the predetermined reference value, controls the recording rate of said recording means so that the recording signal is recorded in a recording mode corresponding to a higher rate which exceeds the predetermined reference value.

13. (Original) A data recording apparatus according to claim 12, wherein the predetermined time period means a continuous recording time period, or a recording time period of bit streams of same contents.

14. (Withdrawn) A data recording apparatus comprising:

inputting means of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

data converting means of converting the data which is received by said inputting means, into a recording signal;

recording means of recording the recording signal which is converted by said data converting means, on a predetermined recording medium; and

controlling means of fixing a recording rate of said recording means to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is to be recorded by said recording means.

15. (Withdrawn) A data recording apparatus according to claim 14, wherein the data which is received by said inputting means is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream configured by a packet of a DSS system.

16. (Currently Amended) A data recording apparatus according to any one of claims ~~1-4, 2, 3, 14, or 15~~, wherein said recording means records also the recording rate on ~~the said~~ recording medium.

17. (Currently Amended) A data reproducing apparatus comprising at least reproducing means of, by using the recording rate which is recorded on ~~the said~~ recording medium by a data recording apparatus according to claim 16, reproducing the recording signal which is recorded on ~~the said~~ recording medium.

18. (Currently Amended) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a data rate detecting step of detecting a data rate of the received bit stream of by counting a number of input-packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time over a predetermined time, the predetermined time being a time taken in said recording step to record data on said predetermined recording medium in a predetermined format; and

a controlling step of controlling a recording rate in said recording step by using based on the detected data rate which is detected in said rate detecting step.

19. (Original) A data recording method according to claim 18, wherein said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

In said recording step, also the special-reproduction data which is produced in said special-data producing step is recorded on said recording medium, and

In said controlling step, the recording rate is controlled in consideration of also an amount of the special-reproduction data which is produced in said special-data producing step.

20. (Currently Amended) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium;

a data rate detecting step of detecting a data rate of the received bit stream of by counting a number of input-packets which are received in said inputting step, at intervals of a time corresponding to an integer multiple of a minimum record unit time over a predetermined time, the predetermined time being a time taken in said recording step to record data on said predetermined recording medium in a predetermined format;

a data rate information outputting step of outputting information of the detected data rate which is detected in said rate detecting step; and

a controlling step of controlling a recording rate in said recording step on the basis of instructions from a user.

21. (Currently Amended) A data recording method according to claim 20, wherein said method further comprises a special-data producing step of, from the data which is received in said inputting step, producing at least one or more kinds of special-reproduction data,

In said recording step, also the special-reproduction data which is produced in said special-data producing step is recorded on said recording medium, and

In said data rate information outputting step, also information of an amount of the special-reproduction data which is produced in said special-data producing step is output.

22. (Cancelled)

23. (Withdrawn) A data recording method comprising:

an inputting step of receiving a bit stream consisting of a packet signal string configured by data of a fixed length;

a converting step of converting the data which is received in said inputting step, into a recording signal;

a recording step of recording the recording signal which is converted in said converting step, on a predetermined recording medium; and

a controlling step of fixing a recording rate in said recording step to a predetermined rate in accordance with a broadcasting channel corresponding to the recording signal which is recorded in said recording step.

24. (Withdrawn) A data recording method according to claim 23, wherein the data which is received in said inputting step is a bit stream configured by a transport packet of an MPEG system of MPEG2 or higher, or a bit stream configured by a packet of a DSS system.

25. (Currently Amended) A data recording method according to any one of claims ~~18 to 21 and 23-24~~18-21, wherein, in said recording step, also the recording rate is recorded on the said recording medium.

26. (Currently Amended) A data reproducing method comprising at least a reproducing step of, by using the recording rate which is recorded on the ~~said~~ recording medium by a data recording method according to claim 25, reproducing the recording signal which is recorded on the said recording medium.

27.-32. (Cancelled)

33. (Currently Amended) A data recording apparatus comprising:

an inputting device for receiving a bit stream including a packet signal string configured by data of a fixed length;

a data converting device for converting the data which is received by said inputting device into a recording signal;

a recording device for recording the recording signal, which is converted by said data converting device, on a predetermined recording medium;

a data rate detecting device for detecting a data rate of the received bit stream for by counting a number of input-packets, which are received by said inputting device, at intervals of a time corresponding to an integer multiple of a minimum record unit time over a predetermined time, the predetermined time being a time taken by said recording device to record data on said predetermined recording medium in a predetermined format; and

a controlling device for controlling a recording rate of said recording device by using based on the detected data rate which is detected by said data rate detecting device.

34. (Currently Amended) A data recording method comprising:

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receiving a bit stream including a packet signal string configured by data of a fixed length;

converting the data which is received by said receiving into a recording signal;

recording the recording signal, which is converted by said converting, on a predetermined recording medium;

detecting a data rate of the received bit stream by counting a number of received input-packets, which are received by said receiving, at intervals of a time corresponding to an integer multiple of a minimum record unit time over a predetermined time, the predetermined time being a time taken to record data on said predetermined recording medium in a predetermined format; and

controlling a recording rate of said recording by using a based on the detected data rate determined based on said counting the number of input-packets.